

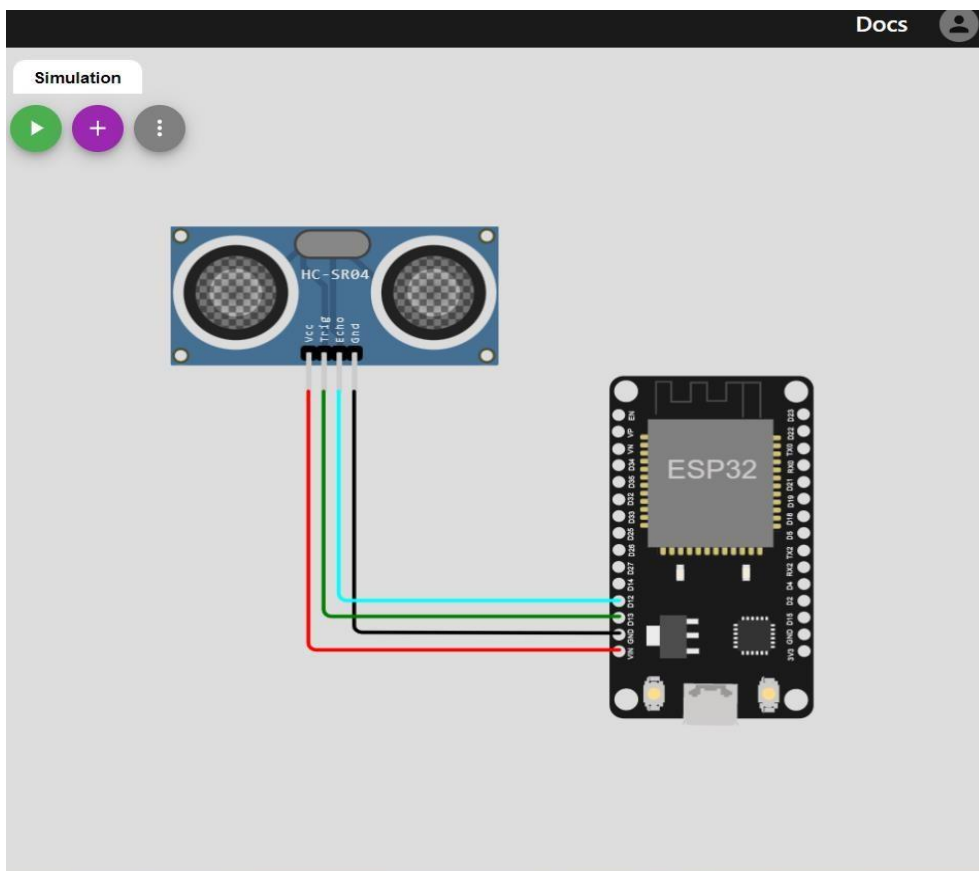
ASSIGNMENT - 4

Date	03 October 2022
Team ID	PNT2022TMID22887
Project Name	Gas leakage monitoring and alerting system
Maximum Marks	2 Marks

Objective: Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100 cm send an "alert" to the IBM cloud and display in the device recent events.

Wokwi Link: <https://wokwi.com/projects/347101724558754387>

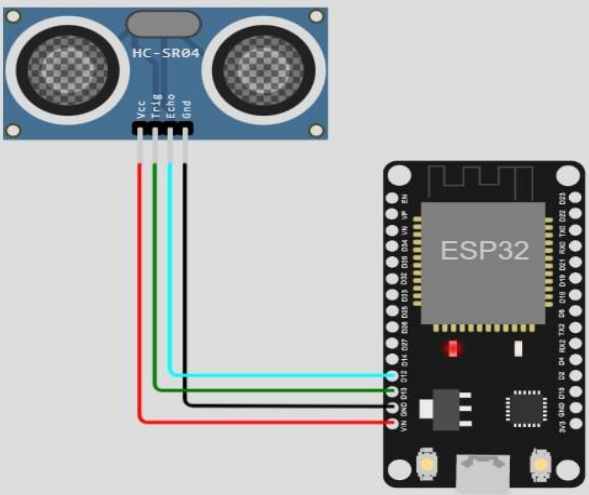
Circuit diagram:



OUTPUT:

Simulation

00:24.264 98%



```
Sending payload: {"Distance":84.95,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":84.95,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}
Publish ok
```

Out put with code

WOKWI

← → ↻ wokwi.com/projects/347101724558754387

SAVE SHARE

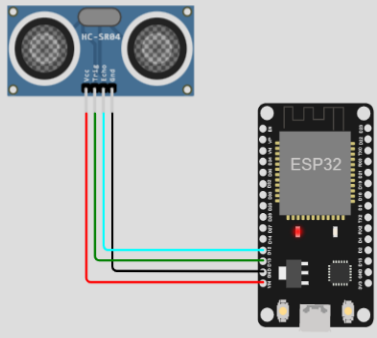
Docs

sketch.ino diagram.json libraries.txt Library Manager

```
1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3 #define TRIG_PIN 13
4 #define ECHO_PIN 12
5
6 // TEAM ID:PNT2022TMID22887
7 // TEAM LEADER :SRINITHYA M
8 // TEAM MEMBER 1 :SOWMIYA D
9 // TEAM MEMBER 2:SANJAI S
10 // TEAM MEMBER 3 :SANTHOSH A
11
12 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
13
14 //-----credentials of IBM Accounts-----
15
16 #define ORG "ipetk0" //IBM ORGANIZATION ID
17 #define DEVICE_TYPE "ESP32" //Device type mentioned in ibm watson IOT Platform
18 #define DEVICE_ID "12345" //Device ID mentioned in ibm watson IOT Platform
19 #define TOKEN "12345678" //Token
20
21
22
23 //----- Customise the above values -----
24 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
25 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of even
26 char subscribetopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT comma
27 char authMethod[] = "use-token-auth"; // authentication method
28 char token[] = TOKEN;
29 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
30
```

Simulation

00:25.165 96%



Publish ok
Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}
Publish ok

IOT WATSON DISPLAY

IBM Watson IoT Platform

732919ecr113@smartinternz.com
ID: ipetko

← Back

Device Drilldown - 12345

Client Address: 145.40.94.93 Insecure

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Recent Events

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
Data	{"Distance":84.98,"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"Distance":84.98,"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"Distance":84.98,"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"Distance":84.98,"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"Distance":84.98,"MESSAGE":"ALERT"}	json	a few seconds ago